



Brunswick County Beaver Management Plan



A Young Beaver (*Castor canadensis*)

Brunswick County

Operation Services

Darry G. Somersett, Director

Written and Research by:

Freddie Hickman & Jeff Brown

Benefits to Brunswick County Citizens

It is important to note the Mosquito Control Water Management Division snagging contracts are severely hampered by beaver dams. It is extremely difficult to identify the natural run of a creek or stream when it is covered by a beaver dam's reservoir.

Requests for assistance are handled on a first-come, first-serve basis with top priority addressing threats to public health and safety, particularly along highway rights-of-way and county-owned property. Work for individual landholders is next, followed by work for soil and water conservation districts, municipalities, corporate landholders, and others. With full time participation in the BMAP program, the county can prioritize aid to the county municipalities by quickly addressing beaver dams within city limits. Although beaver dams affecting D.O.T. roads take priority due to obvious public safety concerns.

There is no direct cost to landowners for this service. Usually the effects of beaver colony damming activities affect multiple citizens both up and down stream from the colony. Fully funding the BMAP program provides us the access to currently inaccessible beaver colonies through the cost reduction to our constituents.

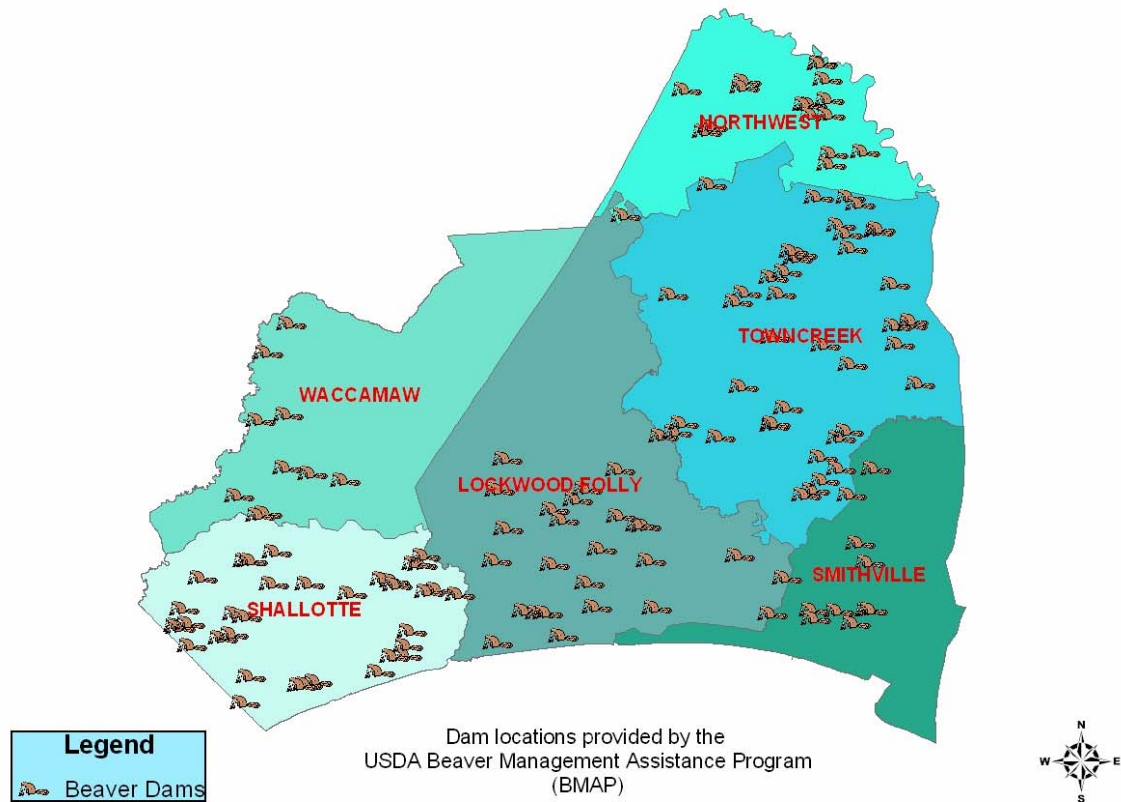
The Beaver Management Assistance Program (BMAP) contract is renewable annually. Each year the County may reevaluate the trapping needs within the county to determine future control needs.

During post disaster situations it is essential that streams and tributaries within the county be kept open to facilitate water egress to provide for the public safety of our citizens. Drainage improvements benefit property owners after hurricanes.



A Small Beaver Dam

Beaver Dam Locations in Brunswick County



Potential Public Health Issues Associated with Beaver Activity

Eastern Equine Encephalitis (EEE)

The mosquito that is responsible for keeping the EEE virus active in the wild bird population (*Cs. melanura*) can be found associated with the fringes of beaver dam reservoirs

West Nile Virus (WNV)

The mosquito that is responsible transmitting WN virus to mammals and potentially humans (*Cx. salinarius*) can be found associated with the fringes of beaver dam reservoirs though out the summer months.

Rabies

Raccoons are the primary vector of Rabies in Southeast North Carolina. Beavers and Raccoons occupy the same habitats. There are documented cases of rabid beavers, and in one case a rabid beaver attacked a German Shepard on a boat dock.

Giardia

The beaver is a natural host for the *Giardia* parasite. The parasite lives in their intestines. Millions of germs can be released in a bowel movement from an infected beaver. *Giardia* can be spread by: swallowing contaminated recreational water.

Affects on Development in Brunswick County

Development is hindered by the presence of beaver activity. If a developer wants to develop an area with active beaver populations the beavers must be removed before the developer can develop the property. After a developer turns the Subdivision over to the Property Owners Association (POA) the POA is responsible for storm water management. This includes any damming activity by beavers. Beavers will block canals designed for storm water runoff.

Beaver Background and Biology

The Beaver *Caster canadensis* is the largest North American Rodent. It is widespread throughout Southeast North Carolina, lives in every North American state and Canadian Province. Beavers can be found in wooded rivers, streams, lakes, swamps, backwaters. They have a humped back, wide flat tail (11-15 inches long, 6 inches wide), average adult weight is 33 pounds, 35-45 inches, often as adults they reach four feet in length, tail included, and specimens over sixty pounds have been documented. Beaver dams can range in size from eighteen inches blocking a culvert pipe in a municipality to as large as 4 to 500 feet across a swamp. For example a $\frac{3}{4}$ mile of Wet Ash Swamp had 11 dams across the entire watershed. Beaver populations continuously try to re-inhabit and rebuild dams at the ideal locations throughout the county. The map below identifies areas within Brunswick County where beavers have been removed by the BMAP program and their dams removed using explosives.

The Beaver Lifecycle: Starting out life, kits, or baby beavers, are born to parents who have probably been together for years. Beavers are known to mate for life, and with a life span of about eight years, (there have been those aged as old as nineteen years) a male and female will produce many litters of kits throughout their lives. Beaver mothers are often kept busy, as they often have both a new litter and a 'teenage' litter from the year before underfoot. Kits are able to swim almost immediately at birth, but are not usually swimming about daily until about a month old, and with an average litter ranging from two to four kits, and some litters as large as eight, this alone is much work for the mother. When the kits are between three and six months old, mother beaver starts to wean them. With a new litter soon to be on the way, this is necessary for both her health, and the health of the new litter. Only as a kit reaches two, or two and a half years old, and his mother is again expecting does he move out on his own.

His first accomplishment will be to find a mate. Together, they will move onto a new area and build their own den, or it has been known that an addition to the main lodge be added on, making a sort of 'condominium' for the new couple. The beaver's diet is strictly vegetarian; they eat the cambium layer of many woody plants, such as sweetgum, yellow poplar, and willow. Beavers are sexually mature at 2 years. They breed in winter or early spring, gestation is 115-120 days, average litter is 3 kits. Young stay with parents for 2 years. The natural predator of beavers in Southeast North Carolina is the American Alligator. As the beaver populations increase we can also expect the population of American Alligators to increase.



Beaver Management Assistance Program

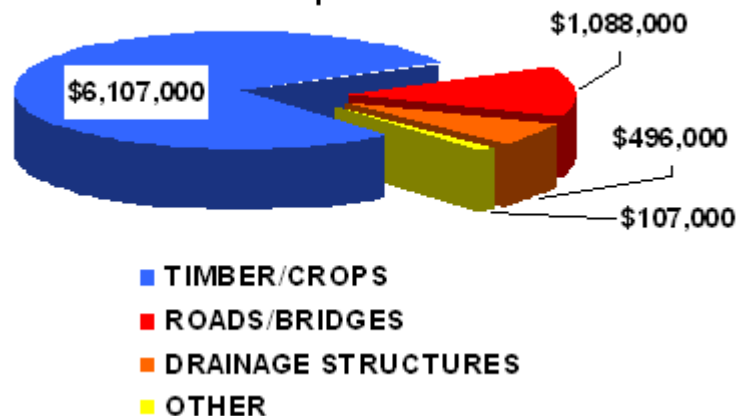
COEXISTING WITH WILDLIFE

BMAP History: Since the first successful reintroduction of beaver into North Carolina in 1939, populations in the state have increased dramatically. Along with this population expansion has come an increase in benefits derived from beaver (for example, increased wetland habitat for a variety of plant and animal species, reduced downstream sedimentation, and improved water quality). However, detrimental impacts of beaver have also increased. For example, in 1997 landholders in eastern North Carolina reported that beaver damage to roads, agriculture and timber lands, drainage systems, landscape plantings, and other property exceeded \$5 million. In 1995-96 the North Carolina Department of Transportation (DOT) spent over \$1 million to repair roads damaged by beaver activities.

**In Fiscal Year 2003
BMAP activities
prevented the loss of,
or damage to, \$7.8
million in resources;
\$7.50 saved for each
\$1.00 spent.**

RESOURCES SAVED FROM BEAVER DAMAGE

October 2002 - September 2003



To address some of these problems, the North Carolina legislature in 1992 created the Beaver Damage Control Advisory Board with the charge to develop, implement, and oversee a program to manage beaver damage on public and private lands. The nine-member Advisory Board, composed of representatives from state and federal agencies and the private sector, established the Beaver Management Assistance Program (BMAP). A major goal of the BMAP is to educate the public and participating landholders about the best strategies for managing beaver damage including the pros and cons of removing beaver or using pond levelers, exclusion, or other non-lethal techniques. Wildlife specialists conduct programs and workshops on beaver damage management and beaver ecology for civic and professional organizations, schools, landholder groups, and others. When beaver damage is intolerable, wildlife specialists alleviate the damage by removing the offending animals and their dams using humane and environmentally acceptable methods or by using pond levelers, exclusion, or other non-lethal techniques.



The BMAP Program is authorized to use explosives for Dam Removal



A Typical Beaver Dam



A Beaver Dam Removed